

9

Lesson 9 Advanced Frame Layout

Lesson Topics

- ▶ Combining Rows & Columns
- ▶ Modifying Frame Appearance & Functionality
- ▶ HTML Extensions for Frames
- ▶ <NOFRAMES> Tag
- ▶ Lesson 9 Summary

Combining Rows & Columns

Typically, the frame layout you desire will involve a combination of rows and columns. This is usually the case with more sophisticated page layouts or layouts involving a nav bar (you will create such a page in Lesson 10: *Linking Frames*).

There are three methods by which you can combine rows and columns:

1. combining ROWS and COLS attributes in a single <FRAMESET> tag;
2. nesting <FRAMESET> tag sets;
3. referring to a master frame document from a <FRAME> tag.

It is important that you recognize the difference between these three methods to choose the approach that works best for you.

These methods are compared in Table 9-1.

Method	Pros	Cons
Combining ROWS and COLS attributes	<ul style="list-style-type: none"> ■ Most straightforward of the three methods ■ Requires the least number of files of the three methods (making Web site file management easier) 	<ul style="list-style-type: none"> ■ Does not allow for more complex frame configurations, such as row spanning and column spanning ■ Browsers sometimes do not properly interpret certain ROWS and COLS configurations
Nesting Frame Sets	<ul style="list-style-type: none"> ■ Allows complex frame configurations, such as row and column spanning ■ Fewer files to manage than when referring a master frame document to another master frame document 	N/A
Referring a master frame document to another master frame document	Allows the most sophisticated and complex frame layouts and configurations	Increases the number of files required to create the frames, making Web site file management a greater burden

Table 9-1: Three methods by which you can combine frame rows and columns

ROWS + COLS in a Single <FRAMESET> Tag

You can combine a ROWS attribute (and value set) with a COLS attribute in a single <FRAMESET> tag. The syntax for combining rows and columns via multiple attributes in the <FRAMESET> tag is shown in Figure 9-1.

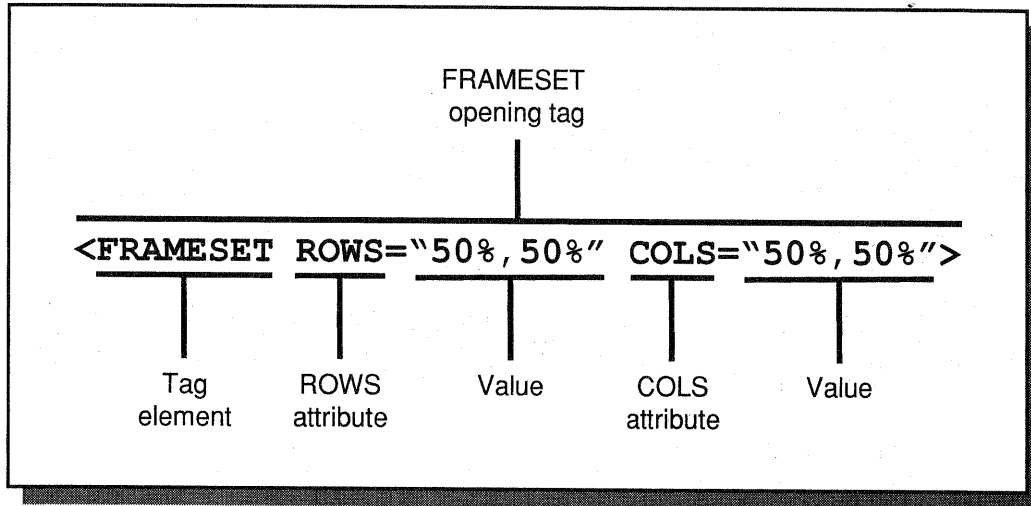


Figure 9-1: Syntax for combining columns and rows with multiple <FRAMESET> attributes



You can specify the arrangement of the frames in the user's browser. When listing the <FRAME> tags between the opening and closing <FRAMESET> tags, use this rule: the <FRAME> tags are listed in the order they occur in the HTML script going from left to right, top to bottom (in that order).

Don't Add; Multiply

If you specify *X* number rows and *Y* number columns, you must then include *X* times *Y* number of <FRAME> tags within the <FRAMESET>. Be careful not to make the mistake of *adding* the number of rows and columns.

Thus, if you specified three ROWS attribute values and three COLS attribute values, you would have to include nine <FRAME> tags (3 x 3) within the <FRAMESET> (not 6).

Exercise 9-1: Combining ROWS & COLS

In this exercise, you will combine rows and columns using a single frame set and combining ROWS and COLS attributes in the opening <FRAMESET> tag.

1. Toggle over to Notepad.
2. Open a new document (File ► New).
3. Type the following text:

```
<HTML>

<HEAD>
<TITLE>Mixing Frame Rows & Columns</TITLE>
</HEAD>

<FRAMESET COLS="50%,50%" ROWS="50%,50%">
  <FRAME SRC=erie.htm>
  <FRAME SRC=michigan.htm>
  <FRAME SRC=ontario.htm>
  <FRAME SRC=superior.htm>
</FRAMESET>

</HTML>
```

4. Save the file as GREAT_LAKES.HTM in the HTML-2 directory.
5. Toggle over to your Web browser and open GREAT_LAKES.HTM.



The page is split into four equally-sized frames, as shown in Figure 9-2 on the following page. Note that scroll bars automatically appear in those frames that do not display all of their contents. Scroll bars inform the user that additional content is available for their review. In an exercise later in this Lesson, you will learn to control this default functionality.

Note how the order of the <FRAME> tags corresponds to the arrangement of the frames in the browser (left to right, top to bottom, in that order).

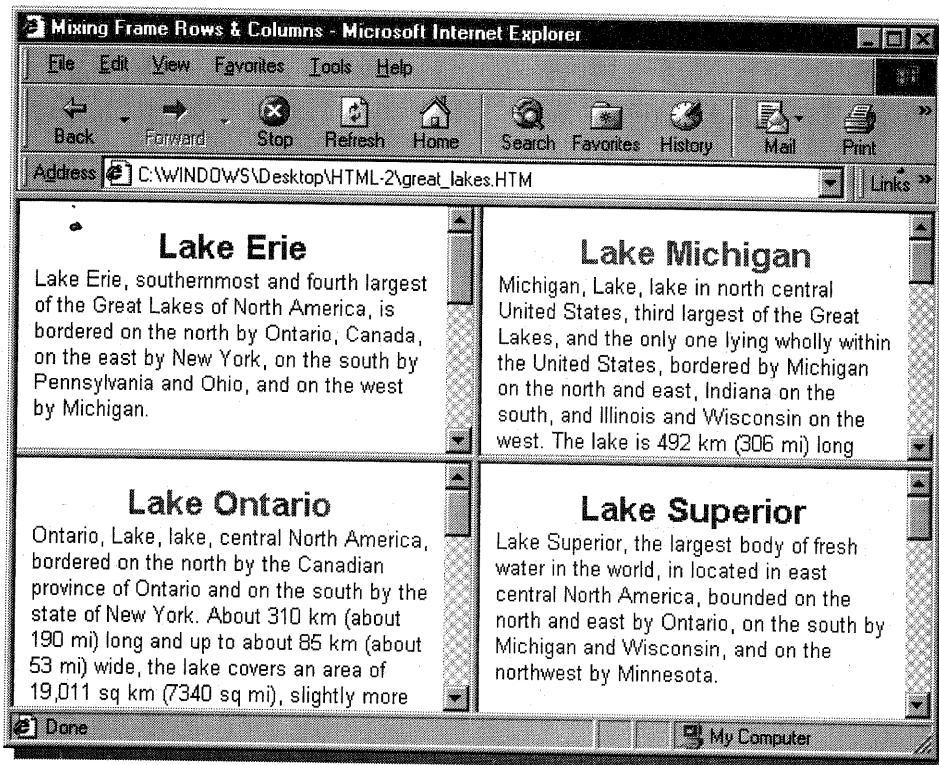


Figure 9-2: Result of combining ROWS and COLS attributes in a single <FRAMESET>



You can rearrange the frames simply by reordering the <FRAME> tags in the master frame document (GREAT_LAKES.HTM).

Nesting Frame Sets

An alternative to using a single `<FRAMESET>` tag is nesting `<FRAMESET>` tags within one another. This allows for more complex and sophisticated frame layouts than you could achieve by combining `ROWS` and `COLS` attributes within a single frame set.

```
<FRAMESET COLS="25%, 75%">

  <FRAME SRC=slave1.htm>

  <FRAMESET ROWS="50%, 50%">
    <FRAME SRC=slave2a.htm>
    <FRAME SRC=slave2b.htm>
  </FRAMESET>

</FRAMESET>
```

In the above example, think of the nested frame set as simply another `<FRAME>`. This will help you ensure that your script is properly interpreted by the user's browser. The results of the above script are shown in Figure 9-3.

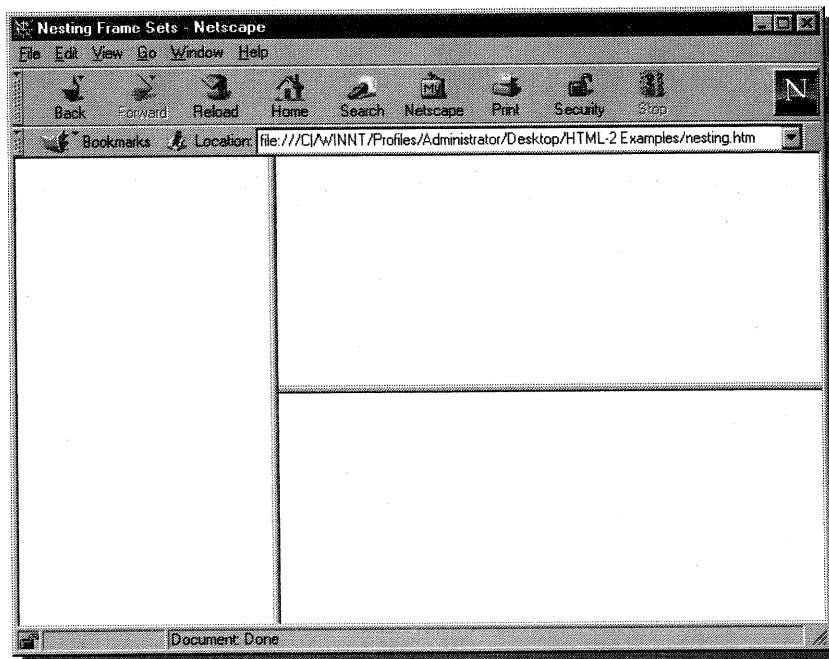


Figure 9-3: An example of a nested frame set

In the opening "outside" frame set, two columns are specified. The first column will display `SLAVE1.HTM`. The second column will display whatever slave frame documents are referred to by the embedded frame set.

Exercise 9-2: Combining Rows & Columns Using Nesting

In this exercise, you will combine frame rows and columns by nesting a frame set within another frame set.

1. Toggle over to Notepad. If necessary, open MASTER1.HTM from the HTML-2 folder.
2. Add the following script that appears in bold to the document:

```
<HTML>

<HEAD>
<TITLE>My Brothers Daryl</TITLE>
</HEAD>

<FRAMESET ROWS="15%,85%">

    <FRAME SRC=relatives.htm>

    <FRAMESET COLS="50%,50%">
        <FRAME SRC=daryl.htm>
        <FRAME SRC=daryl2.htm>
    </FRAMESET>

</FRAMESET>

</HTML>
```

3. Save the document.
4. Now you need to create the slave document RELATIVES.HTM. In Notepad, select **File ► New**. Type the following script:

```
<HTML>

<HEAD>
<TITLE>My Relatives in San Francisco</TITLE>
</HEAD>

<BODY BGCOLOR=blue>

    <CENTER>
    <FONT COLOR=white SIZE=+3><B>My Relatives in San
    Francisco</B></FONT>
    </CENTER>

</BODY>
</HTML>
```

5. Save the file as RELATIVES.HTM in the HTML-2 directory.
6. Toggle over to your Web browser. Reload the page (remember that in Navigator 4.0x you cannot refresh a frames page but must instead reopen the page).



The page is downloaded and displayed, as shown in Figure 9-4.

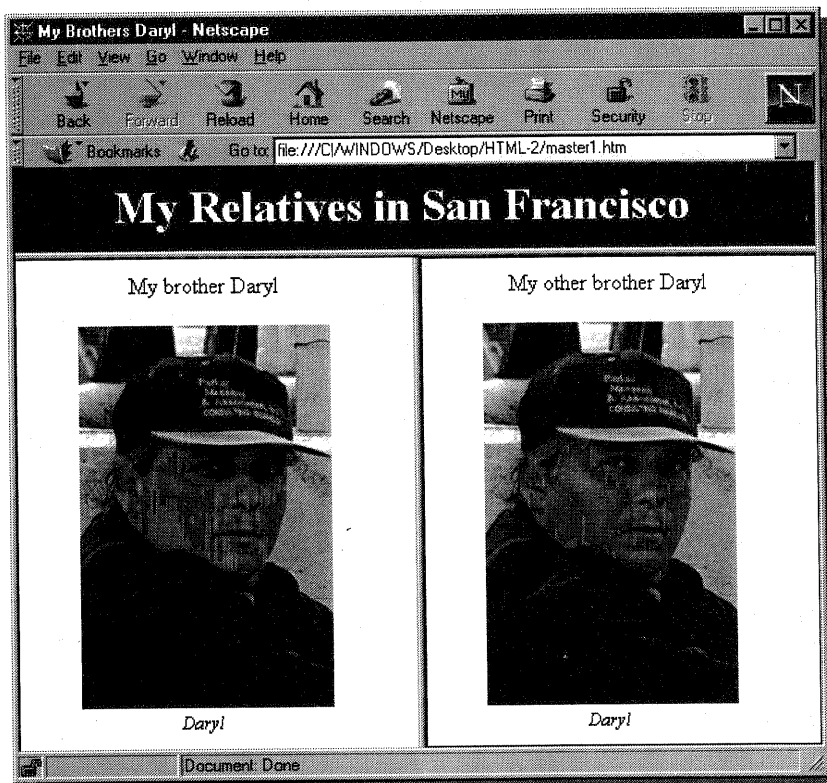


Figure 9-4: Combining rows and columns by nesting <FRAMESET> containers

7. Place your mouse pointer on the border between the left and right frames. Drag the frame border to the left. Now drag it to the right.
8. Move the horizontal frame border between the top row and the bottom columns. Later in this lesson you will learn to modify various characteristics of frame borders.

Exercise 9-3: Referring a Master Frame Document to Another Master Frame

In this exercise, you will combine rows and columns in a frame document by referring to a master frame document from another master frame document. You do this by specifying the “slave” master frame document name from one of the <FRAME> tags in the frameset of the “master” master frame document. While this may sound confusing, it will become clear after you have completed this exercise.

1. Toggle over to Notepad.
2. Open a new document (**File ► New**).
3. Type the following script:

```
<HTML>

<HEAD>
<TITLE>Referring Master Frame Documents</TITLE>
</HEAD>

<FRAMESET ROWS="20%, 60%, 20%">
    <FRAME SRC=header.htm>
    <FRAME SRC=porsche.htm>
    <FRAME SRC=footer.htm>
</FRAMESET>

</HTML>
```

4. Save the file as REFERRING.HTM in the HTML-2 directory.
5. Open a new document in Notepad.
6. Type the following script:

```
<HTML>

<HEAD>
<TITLE>"Referred to" Master Frame Document</TITLE>
</HEAD>

<FRAMESET COLS="35%, 65%">
    <FRAME SRC=porsche_pic.htm>
    <FRAME SRC=porsche_text.htm>
</FRAMESET>

</HTML>
```

7. Save the file as PORSCHE.HTM in the HTML-2 directory.



HEADER.HTM, FOOTER.HTM, PORSCHE_PIC.HTM, and PORSCHE_TEXT.HTM have already been created for you and reside in the HTML-2 folder on your Desktop. For the purpose of this exercise, you do not need to create these files.

8. Toggle over to your Web browser.
9. Open REFERRING.HTM from the HTML-2 folder on you Desktop.



The page is downloaded and displayed, as shown in Figure 9-5. Note the four frames of the page.

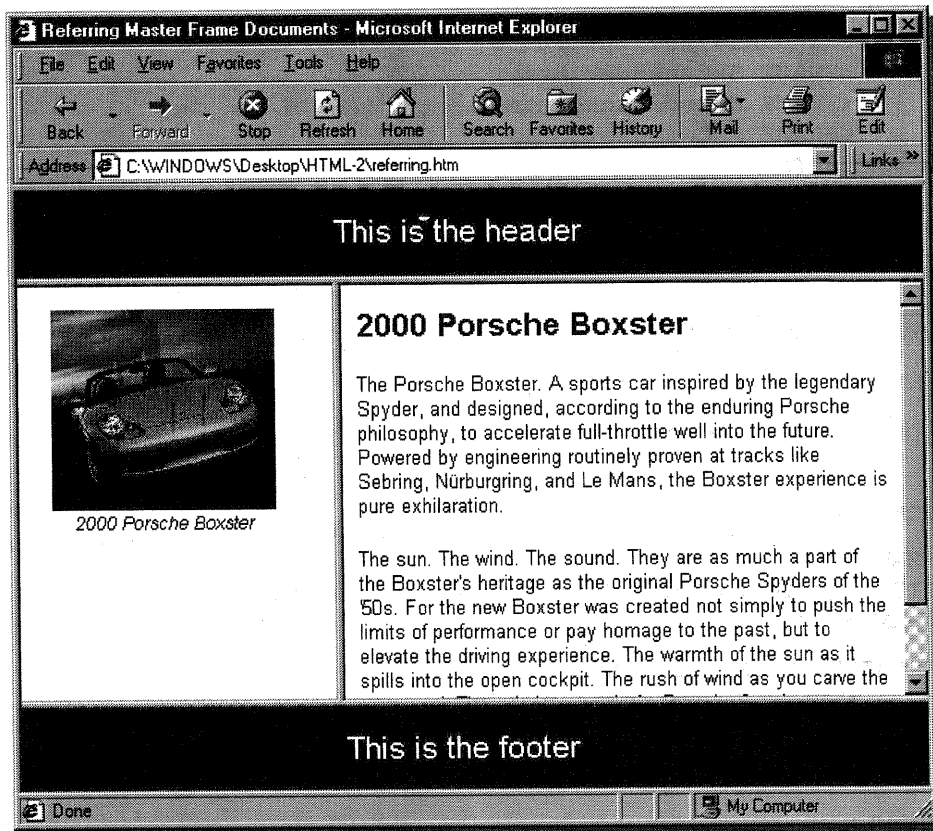


Figure 9-5: Referring to a master frame document from a master frame document

Modifying Frame Appearance & Functionality

There are many ways in which you can modify the appearance and functionality of frames within Web pages. Frame characteristics that you can control include:

- the appearance of scroll bars;
- the user's ability to resize a frame;
- amount of white space within frames;
- the appearance of frame borders.

All of the attributes to the <FRAME> tag that allow you control the above functions, in addition to other characteristics of frames, are listed in Table 9-2.

Attribute	Values	Description
FRAMEBORDER	<ul style="list-style-type: none"> ■ YES (default) ■ NO 	<ul style="list-style-type: none"> ■ YES inserts a 3-D border around the frame. ■ NO specifies the exclusion of any border around the frame.
MARGINHEIGHT	pixels (numeric)	Controls the spacing between the top and bottom of a frame and its contents.
MARGINWIDTH	pixels (numeric)	Controls the spacing between the left and right sides of a frame and its contents.
NAME ¹⁸	text string	Specifies a target name when establishing links between frames.
NORESIZE	<i>Null value set</i>	Adding this attribute prevents visitors from re-sizing the frame.
SCROLLING	<ul style="list-style-type: none"> ■ YES ■ NO ■ AUTO (default) 	Determines whether a scrollbar is displayed alongside a frame. AUTO, the default value, indicates that scrollbar(s) will be displayed only if frame contents extend beyond its boundaries (which depends on the user video configuration).
SRC	URL	<ul style="list-style-type: none"> ■ Inserts the URL of the slave source file in the master frame document. ■ The only necessary <FRAME> attribute.

Table 9-2: <FRAME> tag attributes

¹⁸ You will work with the NAME attribute in Lesson 10: *Linking Frames*.

Exercise 9-4: Controlling Frame Scrolling & Resizing

In this exercise, you will control the appearance of frame scroll bars and a user's ability to manually resize a frame with his or her mouse.

1. Toggle over to Notepad.
2. Make the following edits that appear in bold to MASTER1.HTM in HTML-2:

```
<FRAMESET COLS="50%,50%">
  <FRAME SRC=daryl.htm>
  <FRAME SRC=about_daryl.htm>
</FRAMESET>
```

3. Save the document, toggle over to your Web browser, and open MASTER1.HTM.



The page now appears with a text block in the right frame. Configure your browser window so you have a scroll bar in the right frame but not in the other frames, as shown in Figure 9-6.

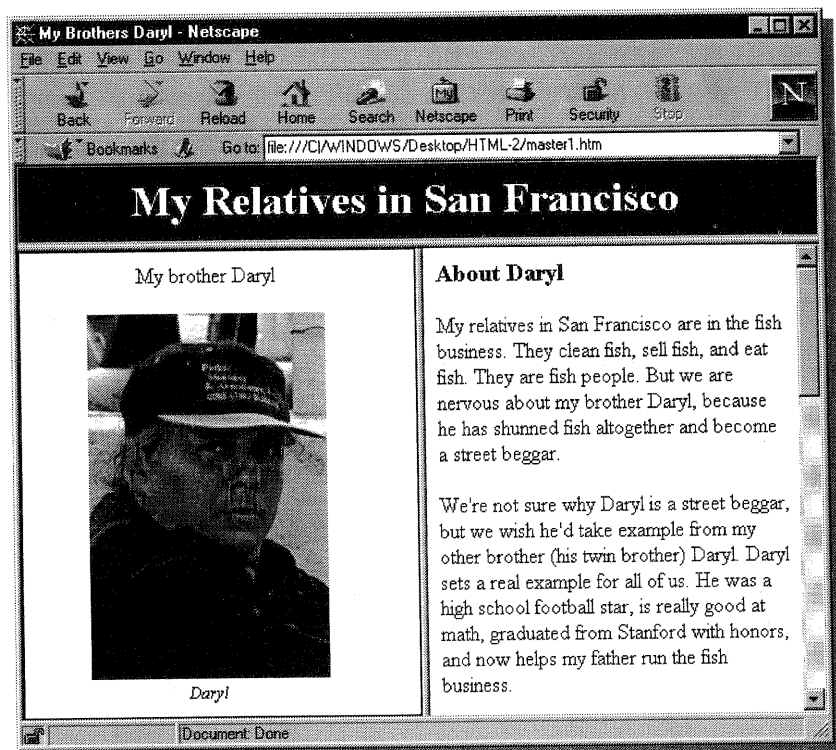


Figure 9-6: Changing the content of a frame in a frames page

4. Place your mouse pointer on the vertical border between the left and right frames and move the frame. This is the default behavior of frames.
5. Shorten your browser window.



Scroll bars automatically appear within the left and top frames when the browser window is sized too small to display all of the frame contents, as shown in Figure 9-7.

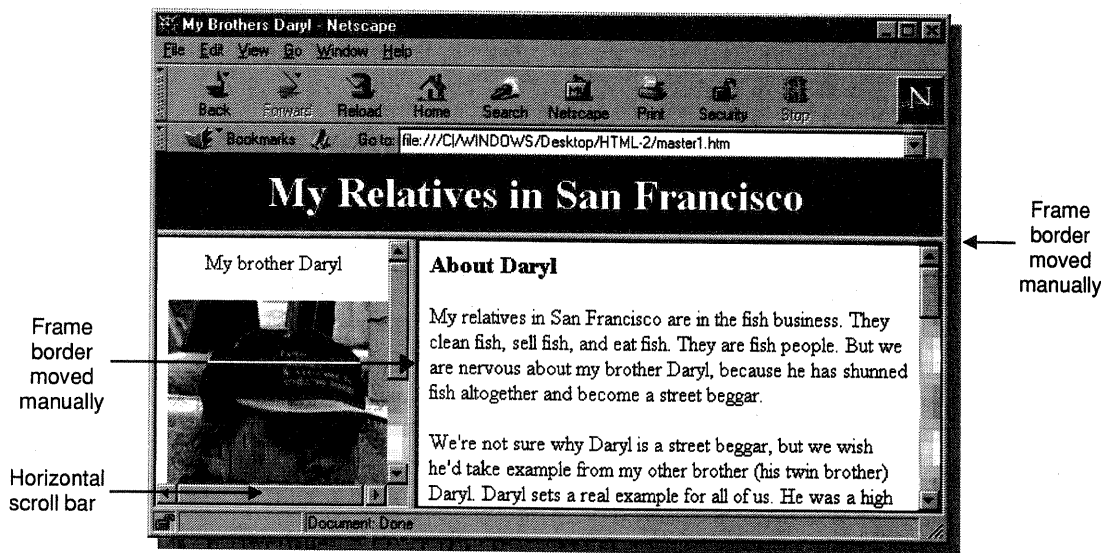


Figure 9-7: Frames resized manually and automatic scroll bars (defaults)

6. Toggle back to Notepad.
7. Make the following edits (that appear in bold) to your HTML document:

```
<FRAME SCROLLING=no NORESIZE SRC=relatives.htm>

<FRAMESET COLS="50%,50%">
  <FRAME NORESIZE SCROLLING=no SRC=daryl.htm>
  <FRAME NORESIZE SRC=about_daryl.htm>
</FRAMESET>
```

8. Save the HTML document. Toggle over to your Web browser. Reload the Web page.
9. Attempt to manually move the frame borders. Note that you no longer see the double arrows that previously allowed you to move the borders.



The frame borders do not move when you attempt to manually move them with your mouse. Scroll bars do not appear on the top or left frame, regardless of the size of the browser window, as shown in Figure 9-8.

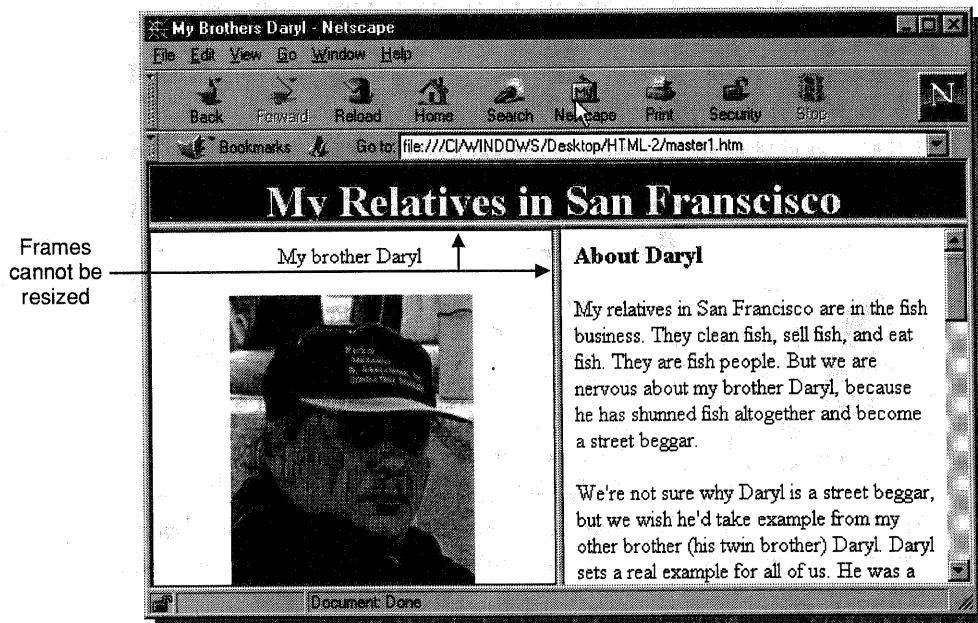


Figure 9-8: Result of `<FRAME NORESIZE SCROLLING=no>`

HTML Extensions for Frames

There are several useful HTML extensions available for frames. You should remember from DDC's *HTML 4.0 Fundamentals* course that extensions are tags and attributes that are not part of the official HTML 4.0 Specification (as maintained by the World Wide Web Consortium) but which have been introduced and advocated by third party organizations, typically Microsoft or Netscape.

Browser Support

All attributes listed in Table 9-3 are supported by both Microsoft IE 3.0 and more recent and Netscape Navigator 3.0 and more recent. Thus, you can use these attributes with a relatively high level of confidence.¹⁹ Seriously consider the intended audience of your HTML documents and their likely browser version before using any of these extensions.

Attribute	Tag	Values	Description
BORDER	<FRAMESET>	pixels (numeric) Default=5	Specifies the thickness of all frame borders on a page.
BORDERCOLOR	<ul style="list-style-type: none"> ▪ <FRAMESET> ▪ <FRAME> 	<ul style="list-style-type: none"> ▪ RGB hexadecimal color value ▪ 16 basic named colors 	<p>Specifies the color of all frame borders on a page (when used with the <FRAMESET> tag) or the borders for a particular frame (when used with the <FRAME> tag).</p> <p><u>Remember:</u> all browsers recognize all RGB hex codes, but it is only safe to use the 16 basic English color names.</p>
FRAMEBORDER	<FRAMESET>	<ul style="list-style-type: none"> ▪ YES ▪ NO 	<p>Controls the inclusion of a frame border on <i>every</i> frame on a page.</p> <p>This attribute is available for the <FRAME> tag as part of the official HTML 4.0 Specification.</p>

Table 9-3: HTML extensions for frames

¹⁹ Use of tags, attributes, and character references new to the HTML Specification or introduced by Microsoft or Netscape is not recommended unless they are supported by *both* the current and previous versions of Microsoft Internet Explorer *and* Netscape Navigator/Communicator.

BORDER Attribute

The **BORDER** attribute to the `<FRAMESET>` tag allows you to specify the thickness of all frame borders in a Web page. The value of **BORDER** is defined as a numeric measure of pixels.

The default value of **BORDER** is five pixels.

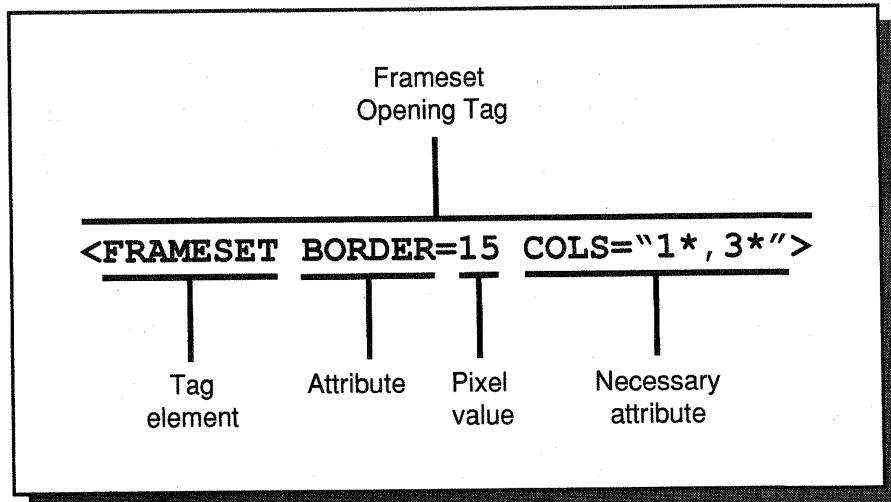


Figure 9-9: **BORDER** attribute syntax



BORDER=0 can be used to eliminate the borders around *all* frames in a Web page.

However, this effect can also be accomplished by specifying a zero value to the **FRAMEBORDER** attribute for each `<FRAME>` tag. Because of the redundancy of using the **FRAMEBORDER=0** tag on *each* `<FRAME>` tag in a master frame document, you may wish to use `<FRAMESET BORDER=0...>` instead.

BORDERCOLOR Attribute

Although an HTML extension (and thus not an official part of the HTML 4.0 Specification), the BORDER attribute to the <FRAMESET> tag allows you to specify the thickness of all frame borders in a Web page.

Value Set

The value of BORDERCOLOR is either: 1) an English color code or 2) an RGB hex color code. There is no default value for BORDERCOLOR.

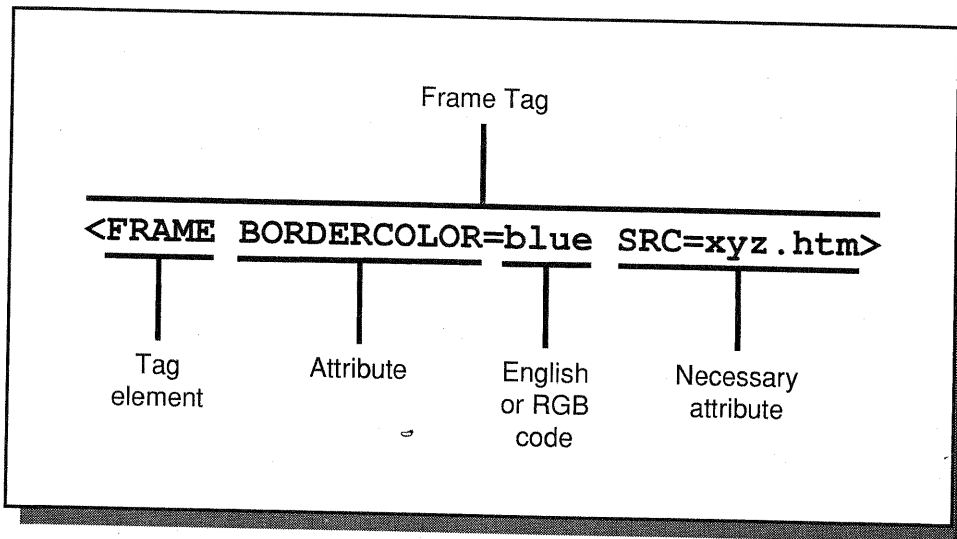


Figure 9-10: BORDERCOLOR attribute syntax

While all browsers support all RGB hexadecimal color codes (such as #00FF00), not all browsers recognize all English color names. Therefore, it is recommended that you limit yourself to the sixteen English color names, as listed in Table 9-4, that are recognized by all major browsers.

Aqua	Black	Blue	Fuchsia
Gray	Green	Lime	Maroon
Navy	Olive	Purple	Red
Silver	Teal	White	Yellow

Table 9-4: Sixteen "browser-safe" color designations

FRAMEBORDER Attribute

The FRAMEBORDER attribute can be confusing because it is both a part of the official HTML 4.0 Specification and also an HTML extension. How, you may ask, can this attribute possess characteristics that are seemingly mutually exclusive?

You may remember from DDC's *HTML 4.0 Fundamentals* that the same term can act as the name for different attributes to different HTML tags (a good example of this is the ALIGN attribute, used differently and with different value sets with tables, images, and horizontal rules).

Thus, FRAMEBORDER is:

- part of the HTML 4.0 Specification with respect to the <FRAME> tag
- an HTML extension when applied to the <FRAMESET> tag

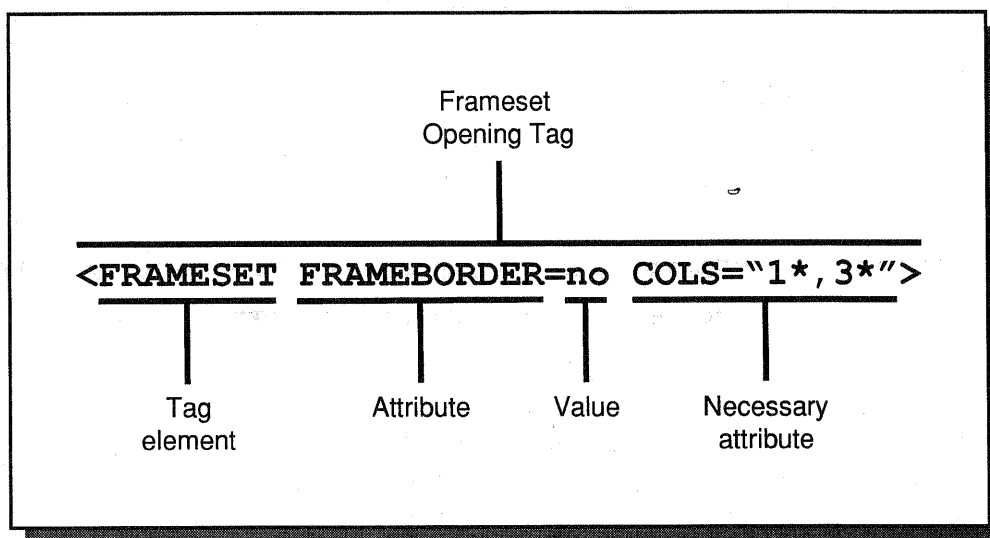


Figure 9-11: FRAMEBORDER attribute syntax



The default value of FRAMEBORDER, when applied to either <FRAME> or <FRAMESET>, is YES. However, because the overall default behavior of a frame is to display borders, you need only use the FRAMEBORDER attribute if you wish to *not* display frame borders.

Exercise 9-5: Manipulating Frame Borders

In this exercise, you will control the thickness of frame borders using the **BORDER** attribute to the `<FRAMESET>` tag.

1. Open `BORDERS.HTM` in the `HTML-2` folder in your browser. Note the appearance of the borders.
2. Toggle over to Notepad. Open `BORDERS.HTM` and add the following script that appears in bold:

```
<FRAMESET BORDER=15 ROWS="1*, 3*">
```

3. Save your changes and toggle over to your Web browser.
4. Reload `BORDERS.HTM` in your Web browser.



All frame borders on the page increase in thickness (to 15 pixels), as shown in Figure 9-12.

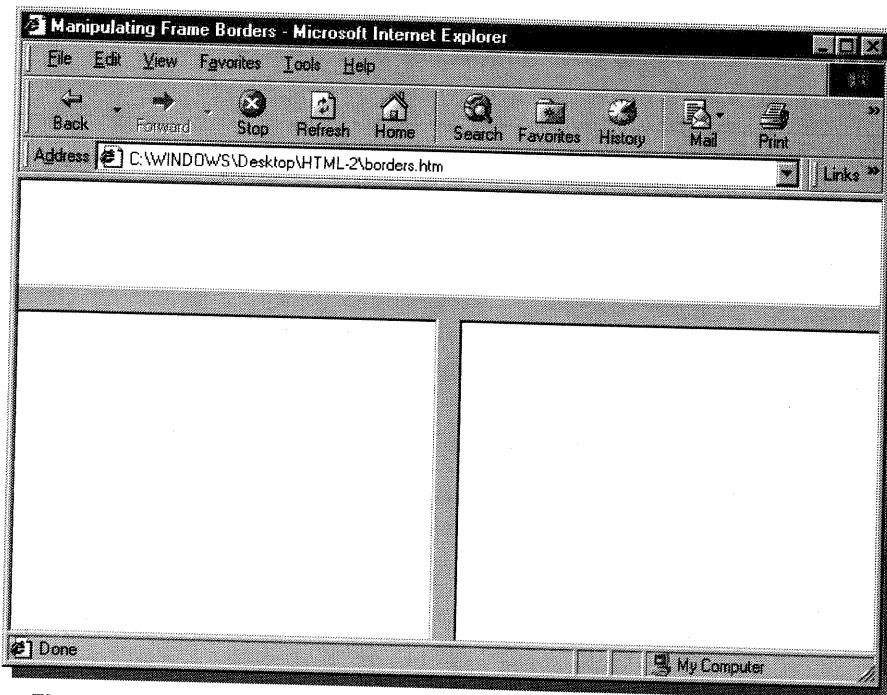


Figure 9-12: Frame borders made thicker with `<FRAMESET BORDER=15>`

5. Toggle back to BORDERS.HTM. Change the value of the BORDER attribute to 25 pixels.
6. Save your changes and toggle back to your Web browser.
7. Reload the HTML document. The borders should appear as in Figure 9-13.

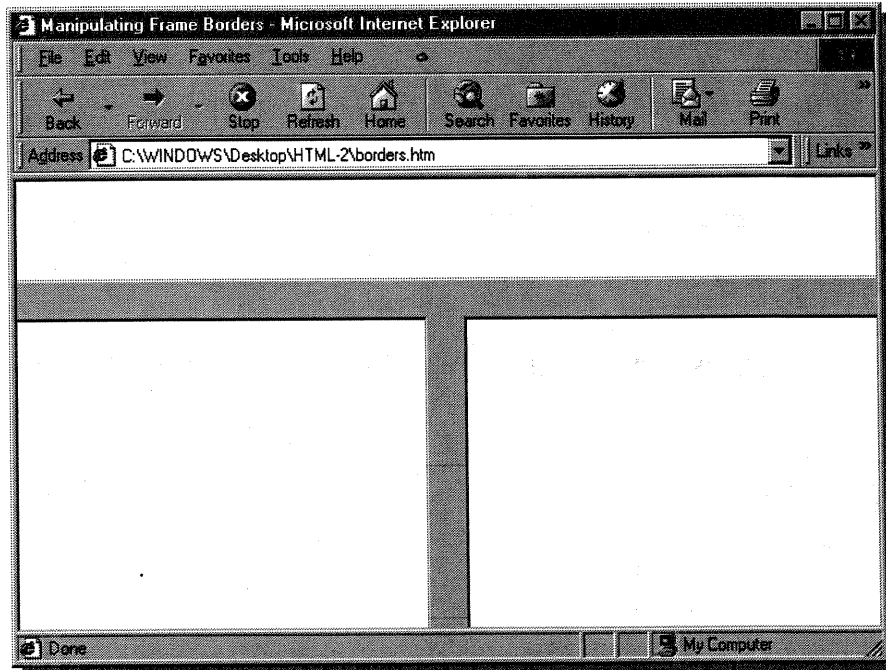


Figure 9-13: <FRAMESET BORDER=25>

8. Toggle back to BORDERS.HTM and add the following script that appears in bold:


```
<FRAMESET BORDER=10 BORDERCOLOR=navy ROWS="1*,3*">
```
9. Save your changes and toggle back to your Web browser. Reload the HTML document. The borders should appear as in Figure 9-14 on the following page.

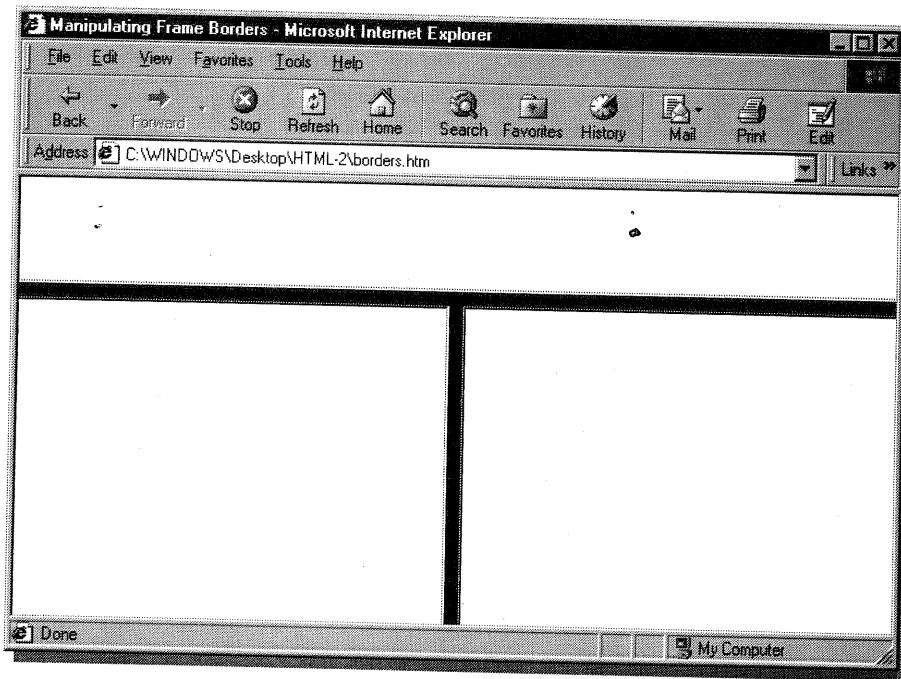


Figure 9-14: `<FRAMESET BORDER=10 BORDERCOLOR=navy>`

10. Toggle back to BORDERS.HTM. Remove the BORDERCOLOR attribute from the opening `<FRAMESET>` tag.
11. Add the following script that appears in bold:

```
<FRAMESET BORDER=10 ROWS="1*, 3*">
```

```
    <FRAME BORDERCOLOR=red>
```

```
    <FRAMESET COLS="*, *">
```

```
        <FRAME>
```

```
        <FRAME>
```

12. Save your changes and toggle back to your Web browser. Reload the Web page.



The horizontal border is now red, while the vertical border reverts to default gray, as shown in Figure 9-15 on the following page.

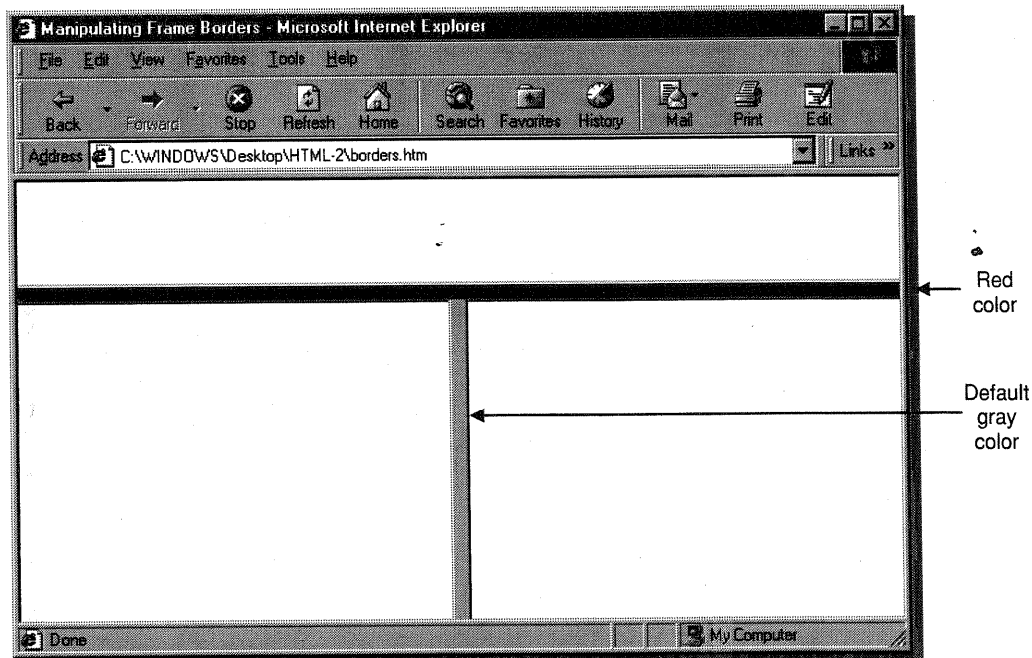


Figure 9-15: Frame color manipulated via `<FRAME BORDERCOLOR=red>`

13. Toggle back to BORDERS.HTM.

14. Add the following script that appears in bold:

```
<FRAMESET BORDER=10 ROWS="1*,3*">
  <FRAME BORDERCOLOR=red>
  <FRAMESET COLS="*,*">
    <FRAME BORDERCOLOR=green>
    <FRAME>
```

15. Save your changes and toggle back to your Web browser. Reload the Web page.



The vertical frame border is displayed in green, while the horizontal frame border continues to be displayed in red.

By applying the `BORDERCOLOR` attribute at the `<FRAME>` level, you can more finely control the colors of borders and mix frame colors in a single page.

Exercise 9-6: Turning Off Frame Borders

In this exercise, you will configure a `FRAMESET` to hide frame borders.

1. In your Web browser, open `MASTER1.HTM`. Note the default appearance of the borders.
2. Toggle over to Notepad and open `MASTER1.HTM`.
3. Add the following script that appears in bold:

```
<FRAMESET FRAMEBORDER=no ROWS="15%, 85%">
```

4. Save your changes and toggle over to your Web browser. Reload the Web page.



The frame borders of all frames on the page are no longer visible, as shown in Figure 9-16. You can create aesthetically appealing page effects by combining background colors with borderless frames.

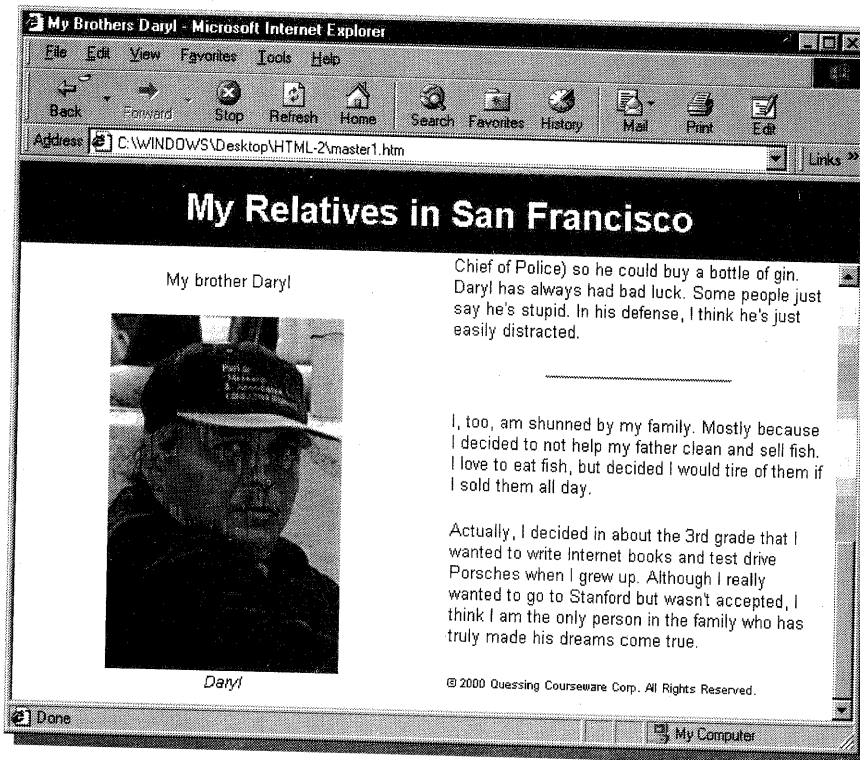


Figure 9-16: Page with `<FRAMESET FRAMEBORDER=no>`

5. Toggle back to Notepad and remove the `FRAMEBORDER` attribute from the opening `<FRAMESET>` tag.
6. Add the script that appears below in bold:

```
<FRAMESET COLS="50%, 50%">
  <FRAME NORESIZE SCROLLING=no FRAMEBORDER=no SRC=daryl.htm>
  <FRAME NORESIZE SRC=about_daryl.htm>
</FRAMESET>
```

7. Save your changes and toggle over to your Web browser. Reload the Web page.



The frame borders of the lower left frame are no longer visible, as shown in Figure 9-17.

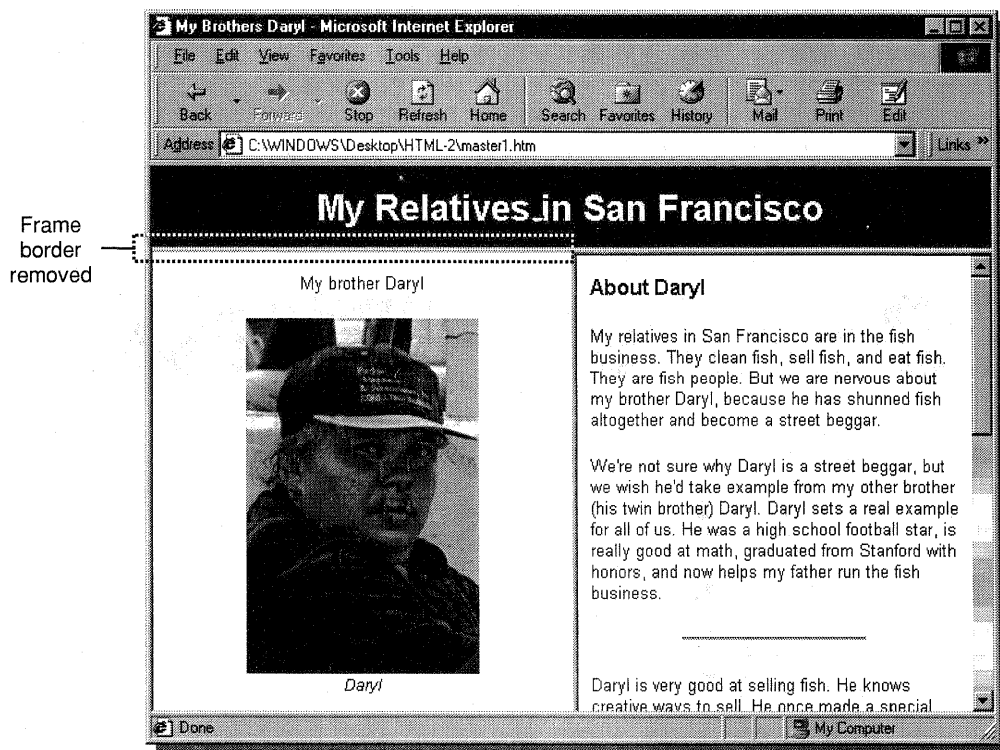


Figure 9-17: Border turned off for an individual frame using an HTML extension



`<FRAME FRAMEBORDER=no>` works in Internet Explorer 4 and 5, but not in Netscape Navigator. In Navigator, the border will remain visible.

Exercise 9-7: Adding Margin Space to Frames

In this exercise, you will add margin space to frames by using the `MARGINHEIGHT` and `MARGINWIDTH` attributes to the `<FRAME>` tag.

1. Toggle over to Notepad (with MASTER1.HTM open).
2. Remove the `FRAMEBORDER` attribute from the `<FRAME>` tag.
3. Add the script that appears below in bold:

```
<FRAME MARGINHEIGHT=15 SCROLLING=no NORESIZE SRC=relatives.htm>

<FRAMESET COLS="50%, 50%">
  <FRAME MARGINHEIGHT=35 NORESIZE SCROLLING=no SRC=daryl.htm>
  <FRAME MARGINHEIGHT=35 NORESIZE SRC=about_daryl.htm>
</FRAMESET>
```

4. Save your HTML document. Toggle over to your Web browser. Reload the Web page.



The frames now appear with more white space at the top and bottom, as shown in Figure 9-18. Text in the right frame touches the border.

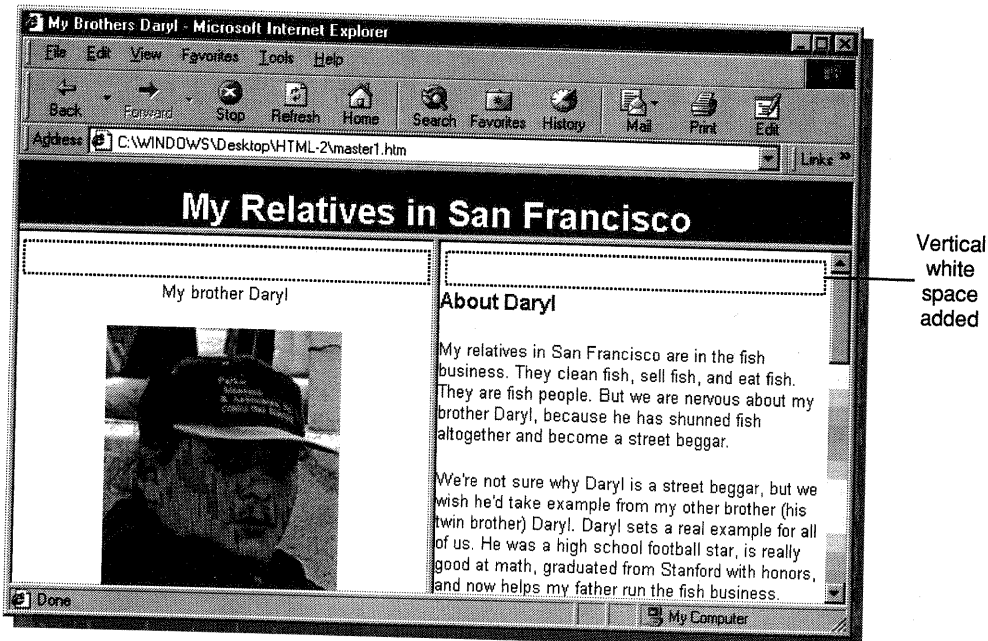


Figure 9-18: Vertical white space added with the `MARGINHEIGHT` attribute

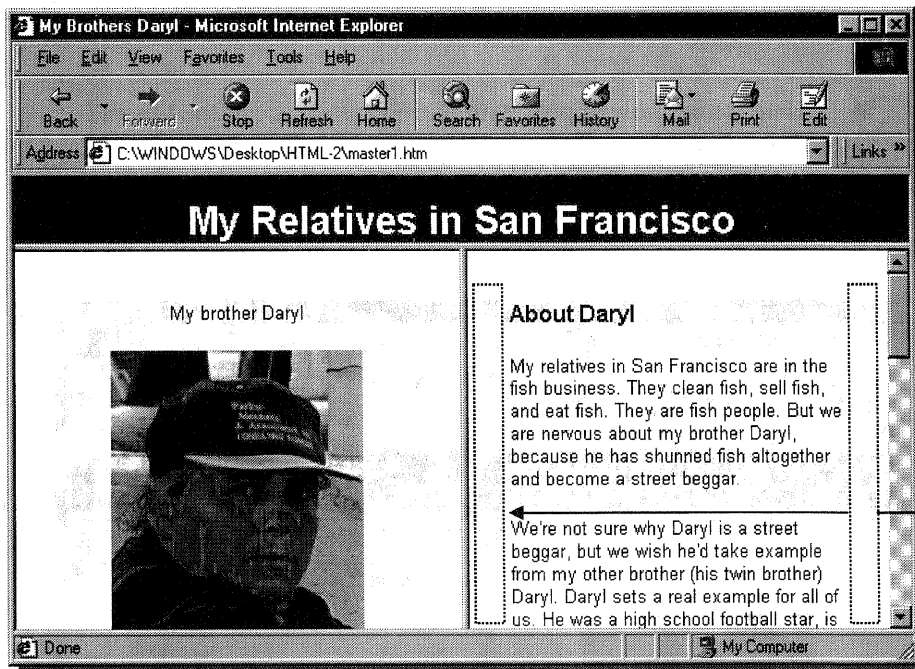
5. Toggle over to Notepad.
6. Add the script that appears below in bold:

```
<FRAMESET COLS="50%, 50%">
  <FRAME MARGINHEIGHT=35 NORESIZE SCROLLING=no SRC=daryl.htm>
  <FRAME MARGINHEIGHT=35 MARGINWIDTH=30 NORESIZE
    SRC=about_daryl.htm>
</FRAMESET>
```

7. Save your HTML document. Toggle over to your Web browser. Reload the Web page.



The right frame now appears with a wider margin (more white space) between the text and the left and right frame borders, as shown in Figure 9-19.



Horizontal
white
space
added

Figure 9-19: White space added via **MARGINWIDTH** and **MARGINHEIGHT**

<NOFRAMES> Tag

Although the majority of Web browser users have frames-enabled browsers, you may desire to accommodate those who are using browsers not capable of displaying frames (NCSA Mosaic, versions of Navigator prior to 2.0, and versions of Microsoft IE prior to 2.1). To do this, simply nest alternate HTML code between the opening and closing <NOFRAMES> tags.



Place the <NOFRAMES> tag set *after* the closing </FRAMESET> tag but *before* the closing </HTML> tag.

An example using the <NOFRAMES> tag to offer a non-frames version of your page follows:

```
<FRAMESET ROWS="*, 3*">
  <FRAME SRC=slave1.htm>
  <FRAMESET COLS="100, *">
    <FRAME SRC=slave2.htm>
    <FRAME SRC=slave3.htm>
  </FRAMESET>
</FRAMESET>

<NOFRAMES>
  <!-- alternate HTML code goes here -->
</NOFRAMES>

</HTML>
```

Recognizing Non-Frames Browsers

It is important to notify users of non-frames enabled browsers of the fact that your site contains frames and, thus, requires a frames-enabled browser for proper viewing. You can accomplish this by inserting a simple text message between the opening and closing <NOFRAMES> tags that informs users that your site requires a frames-enabled browser.

An example using the <NOFRAMES> tag to identify non-frames enabled browsers follows:

```
<FRAMESET COLS="1*, 4*">
  <FRAME SRC=slave1.htm>
  <FRAME SRC=slave2.htm>
</FRAMESET>

<NOFRAMES>
  Your browser is not capable of viewing frames; this Web site
  requires a frames-enabled browser.
</NOFRAMES>
```

Exercise 9-8: Notifying Non-Frames Enabled Browsers of Your Status

In this exercise, you will add script to a frames-enabled HTML document that notifies Web browsers not capable of viewing frames that they will not be able to view the content of your site.

1. Toggle over to Notepad.
2. Add the following script to MASTER1.HTM after the closing `</FRAMESET>` tag but before the closing `</HTML>` tag:

```
<NOFRAMES>
  This Web site requires a frames-enabled browser. Your browser
  is not capable of viewing frames. To view this site, please
  upgrade to a browser such as Netscape Navigator, Netscape
  Communicator, or Microsoft Internet Explorer.
</NOFRAMES>
```

3. Save the HTML document and toggle over to your Web browser.
4. Reload the Web page in your browser.



You should notice no difference in the appearance of the Web page. Because you are using a frames-enabled browser, the content between the opening and closing `<NOFRAMES>` tags is not displayed.

If you were using a browser not capable of viewing frames, this content would be displayed (and the content between the `<FRAMESET>` tags would be ignored).

This is because frames-enabled browsers, such as Microsoft Internet Explorer and Netscape Navigator/Communicator, are programmed to ignore the content of the `<NOFRAMES>` tags.

Lesson 9 Summary

- ▶ You can use a variety of attributes to precisely configure the layout and appearance of frames and frame content.
- ▶ You can mix columns and rows in a single page.
- ▶ There are three methods by which you can mix columns and rows in a page: 1) nesting a FRAMESET within a FRAMESET; 2) mixing ROWS and COLS attributes in a single <FRAMESET> opening tag; and 3) referring to a master frame document from a <FRAME> tag.
- ▶ Other attributes that can be added to the <FRAME> tag are SCROLLING, NORESIZE, MARGINHEIGHT, and MARGINWIDTH.
- ▶ Other attributes that can be added to the <FRAMESET> tag are BORDERS, and FRAMEBORDERS.
- ▶ You can rearrange the frames in a frames page simply by reordering the <FRAME> tags in a master frame document.
- ▶ BORDER, BORDERCOLOR, and FRAMEBORDER are all extensions to HTML and not part of the official HTML 4.0 Specification. However, all of these attributes are supported by Netscape Navigator 3.0 and more recent and Microsoft Internet Explorer 3.0 and more recent, so you can safely apply these attributes to your frames.
- ▶ Netscape Navigator and Microsoft Internet Explorer display frame borders differently.
- ▶ All browsers recognize and properly interpret all RGB color codes. However, not all browsers recognize all English color names. To be safe, you should only use the 16 English color codes that are recognized by all major browsers.
- ▶ To accommodate Web users who are not using a frames-enabled browser, you should: 1) include alternate HTML code between the <NOFRAMES> tags or 2) notify users that your page contains frames, that their browser is not capable of viewing frames, and that they must upgrade their browser to one that is frames-capable.
- ▶ The tag used to display a message to users of non-frames enabled browsers (that will not be displayed to users of frames-enabled browsers) is the <NOFRAMES> tag. <NOFRAMES> is a non-empty tag set.